ABSTRACT

Hadith is a source of law and the second guidance for Muslims in addition to the Qur'an and many hadiths that have been narrated by hadith experts. This research attempts to develop a system that can classify Bukhari hadith in Indonesian translations. This topic was raised to meet the needs of Muslims to know the information, suggestions, and prohibitions written in a hadith. Text classification has its own challenges related to several features that have very large dimensions so that it increases computing time and causes difficulties in obtaining the optimal results. This research uses a hybrid method in deep learning namely Convolutional Recurrent Neural Network (CRNN) and Recurrent Neural Networks. Convolutional Neural Network is selected as a method of selecting and reducing data, because it can determine spatial information that is interrelated and correlated. While Recurrent Neural Networks are used as a classification method because it can be used for very long contextual information specifically sequential data such as text data by relying on its 'memory'. This research presents the results of several classifications using deep learning, and the Convolutional Recurrent Neural Network (CRNN) gives the best hamming loss results, namely 0.069332 for training data and 0.092974 for testing data.

Keywords: convolutional neural network, recurrent neural network, text classification, dimension reduction